

**Amendments to the Drawing:**

The attached replacement drawing sheet makes changes to Figure 1 and replaces the original sheet with the amended Figure 1.

Attachment: Replacement Sheet

**REMARKS**

Claims 1-23 are pending in this application. By this Amendment, claims 1 and 2 are amended as requested by the Patent Office. The specification and drawing are also amended as requested by the Patent Office.

Entry of the amendments is proper under 37 CFR §1.116 since the amendments:

(a) place the application in condition for allowance (for the reasons discussed herein); (b) do not raise any new issue requiring further search and/or consideration (as the amendments merely correct formal matters as requested by the Patent Office); (c) satisfy a requirement of form asserted in the previous Office Action; and (d) place the application in better form for appeal, should an appeal be necessary. The amendments are necessary and were not earlier presented because they are made in response to arguments raised in the final rejection. Entry of the amendments is thus respectfully requested.

**I. Objection to the Drawing**

The drawing Figure was objected to as allegedly failing to show the complete composite, the Patent Office requesting (1) addition of a single reference number to indicate the overall structure of the fabric and (2) addition of a waterproof coating layer. The Patent Office also indicated that a description of the Figure needed to be added to the specification. This objection is respectfully traversed.

First, Figure 1 is amended to add identifier 50 to represent the entire double layer fabric.

Second, the specification was previously amended to include a description of the drawing Figure after specification paragraph [0008]. This description of Figure 1 is further amended by this Amendment, as further discussed below.

Third, the indications in the Office Action that the present invention includes a three layer composite that includes a waterproof coating layer are not correct. As described

throughout the specification and as recited in the claims, the penetration-resistant material comprises a double layer of woven fabric, wherein at least the first set of threads of the first layer of fabric and the second set of threads of the second layer of fabric are treated with a water repellant. There is no separate waterproof coating layer required. The threads themselves are treated with a water repellant, which results in a treated (and not necessarily coated) thread being incorporated into the penetration-resistant material. It is not possible to physically show the treated threads in Figure 1 as it is not a separate coating layer. However, in an effort to expedite resolution of this issue, the description of Figure 1 in the specification has been revised to add a description of which of the threads, at a minimum, are treated with the water repellant.

Reconsideration and withdrawal of the drawing objection are respectfully requested.

## **II. Objection to the Specification**

The Patent Office objected to the specification as still requiring clarification so as to match the claim language. By this Amendment, the specification has been amended as requested by the Patent Office. Reconsideration and withdrawal of the specification objection are respectfully requested.

## **III. Objection to the Claims**

Claim 1 was objected to for omitting an antecedent basis recitation of the second layer of fabric. By this Amendment, claim 1 has been amended as requested by the Patent Office.

Reconsideration and withdrawal of the objection to claim 1 are respectfully requested.

## **IV. Obviousness-Type Double Patenting Rejections**

Claims 1-23 were rejected for obviousness double patenting over the claims of co-pending Application No. 10/471,089 alone, and over the claims of U.S. Patent No. 6,662,369, U.S. Patent No. 6,610,618 and U.S. Patent No. 6,890,871, each in view of U.S. Patent No. 5,471,906 (Bachner). These rejections are respectfully traversed.

**A. Application No. 10/471,089 and U.S. Patent No. 6,890,871**

Submitted with this Amendment is a Terminal Disclaimer for each of Application No. 10/471,089 and U.S. Patent No. 6,890,871. In view of the Terminal Disclaimers, reconsideration and withdrawal of the rejections relying upon these patent properties are respectfully requested.

**B. U.S. Patent No. 6,662,369**

The obviousness double patenting rejection relying upon U.S. Patent No. 6,662,369 in view of Bachner is respectfully traversed.

U.S. Patent No. 6,662,369 (the 369 Patent) claims a stab-resistant material comprising at least more than one laminate consisting of two woven fabrics laminated together with a polymer film such that two woven fabrics are joined via the polymer film, wherein the fabrics comprise yarns having a tensile strength of at least 900 MPa, and the polymer film joining the fabrics has a tensile strength of at least 10 MPa and a flexural modulus of 1500 to 4500 MPa.

Clearly, the claims of the 369 Patent do not teach or suggest a penetration-resistant material comprising at least a double layer of woven fabric wherein the double layer comprises a first layer of fabric and a second layer of fabric, wherein the first layer of fabric is composed of a first set of threads comprising 3.5 to 20 threads/cm, having a linear density of at least 210 dtex, and comprising at least 65 % of the first layer fabric weight, and a second set of threads comprising 0.5 to 16 threads/cm and having a linear density of at least 50 dtex, with the second set of threads being transverse to the first set of threads, and a ratio of the number of threads/cm of the first set to that of the second set is greater than 1:1, and wherein the second layer of fabric is composed of a first set of threads comprising 0.5 to 16 threads/cm and having a linear density of at least 50 dtex, and a second set of threads comprising 3.5 to 20 threads/cm, having a linear density of at least 210 dtex, and comprising at least 65 % of the second layer fabric weight, with the second set of threads being transverse

to the first set of threads, and a ratio of the number of threads/cm of the second set to that of the first set is greater than 1:1. In fact, the claims of the 369 Patent teach nothing about the relationship among the threads of the fabric of each layer or the relationship of the threads of each layer with respect to the other layer, each as required in claim 1 of the present application. Nothing in the 369 Patent claims would have led one of ordinary skill in the art to the specific fabric construction and thread relationship details of the penetration-resistant material recited in the present claims.

Bachner was cited as suggesting the use of a waterproof coating on body armor. While Bachner teaches sealing the armor layer within a waterproof cover, Bachner does not teach treating sets of threads of a double layer of woven fabric with a water repellant. Moreover, even if the combination as alleged by the Patent Office were to have been made by one of ordinary skill in the art, the penetration-resistant material of claim 1 would not have been achieved. Bachner remedies none of the fabric structure and thread relationship deficiencies of the 369 Patent claims detailed above.

For the foregoing reasons, reconsideration and withdrawal of this rejection are respectfully requested.

**C. U.S. Patent No. 6,610,618**

The obviousness double patenting rejection relying upon U.S. Patent No. 6,610,618 (the 618 Patent) in view of Bachner is respectfully traversed.

The 618 Patent is the U.S. patent family member corresponding to WO 00/42246 (WO 246) relied upon by the Patent Office in the prior Office Action. As was discussed in detail in the December 8, 2005 Amendment with respect to WO 246, the 618 Patent claims a penetration-resistant material comprising at least a double layer of fabric comprised of two layers of woven fabric in which both layers of woven fabric consist of a first set of threads with 3.5 to 20 threads/cm and a linear density of at least 420 dtex and a second set of threads

with 0.5 to 8 threads/cm and a linear density of at least 50 dtex, with the second set of threads transverse to the first set of threads, and wherein the two layers of woven fabric are cross-plied at an angle. See claim 1 of the 618 Patent.

As generally known, a woven fabric consisting of two sets of threads being transverse has one set of threads in the warp direction and the other set of threads in the weft direction. According to the 618 Patent, the threads with the higher linear density, for example the first set of threads having a linear density of at least 420 dtex, are preferably the warp threads (see claim 9 and the Examples), and thus the second set of threads must be the weft threads.

Thus, according to the claims of the 618 Patent, the threads with a linear density of at least 420 dtex are the warp threads in both layers of the double layer of fabric. The threads of the weft threads are also identical in both layers of the double layer. The two woven fabric layers forming the double layer of the 618 Patent are thus identical due to the identical use of the same warp and weft threads in each layer.

In contrast to the claims of the 618 Patent, according to the present claim 1, each woven fabric is composed of two sets of threads, the set of threads with a linear density of at least 210 dtex forming the first set of threads in the first layer and the second set of threads in the second layer. The first and second sets of threads of the first layer have a parallel orientation towards the first and second sets of threads, respectively, of the second layer. Thus, in claim 1, the two layers of woven fabric are not cross-plied at an angle.

The two layers of fabric forming the double layer of material recited in claim 1 are woven fabric layers. The first set of threads having a linear density of at least 210 dtex forms the warp thread of the first layer and the second set of threads having a linear density of at least 50 dtex forms the weft thread of the first layer, while in the second woven fabric layer the first set of threads having a linear density of at least 50 dtex is the warp thread and the second set of threads having a linear density of at least 210 dtex is the weft thread. The set of

threads forming the warp thread in the first layer must be the weft thread in the second layer, and the set of threads forming the weft thread in the first layer must be the warp thread of the second layer. The woven fabric layers forming the one double layer as recited in claim 1 are thus not identical due to the different orientation of threads in each layer.

However, the claims in the 618 Patent do not teach that the first set of threads of the first fabric layer must be the second set of threads of the second fabric layer, and that the second set of threads of the first fabric layer must be the first set of threads of the second fabric layer as recited in claim 1. Instead, the 618 Patent claims teach that the threads of the first layer have an identical orientation in the second layer, with the weft threads being the same in the first and second layers. This differs from the elements recited in claim 1.

Accordingly, the claims of the 618 Patent recite a fabric structure that is different from the fabric structure recited in present claim 1. The fabric structure of the claims of the 618 Patent includes fabric layers in which the threads thereof are arranged in a completely different relationship compared to the thread relationships among the layers in the presently claimed fabric. Accordingly, the claims of the 618 Patent would not have led one to the fabric of the present claims.

Bachner was cited as suggesting the use of a waterproof coating on body armor. While Bachner teaches sealing the armor layer within a waterproof cover, Bachner does not teach treating sets of threads of a double layer of woven fabric with a water repellant. Moreover, even if the combination as alleged by the Patent Office were to have been made by one of ordinary skill in the art, the penetration-resistant material of claim 1 would not have been achieved. Bachner remedies none of the fabric structure and thread relationship deficiencies of the 618 Patent claims detailed above.

For the foregoing reasons, reconsideration and withdrawal of this rejection are respectfully requested.

**V. Response to Notice of Non-Compliant Amendment**

**A. Objection to the Drawing**

The Patent Office asserts that the Figure needs a figure number, for example, FIGURE

1. This objection is respectfully traversed.

According to the MPEP §608.02(u)(1), where only a single view is used in an application (as in the present application) to illustrate the claimed invention, it must not be numbered. However, in an effort to expedite resolution of this issue, the Figure has been revised to add a figure number.

Reconsideration and withdrawal of the drawing objection are respectfully requested.

**B. Request to amend "water-repellant" and Interview Summary**

The Patent Office requests Applicants to amend the "water-repellant" throughout the specification and claims to state coating or film.

In telephone discussions with the Examiner, the undersigned explained that the threads are treated with water-repellant and that the water-repellant (1) is not a coating or film as applied and (2) does not necessarily result in a coating or a film on the threads. However, the Examiner has insisted that the water-repellant must be recited to be a coating or a film, as indicated in the Advisory Action and Notice.

The terms "coating" and "film" are not the most accurate terms to describe the water-repellant or treated threads, and thus the Patent Office should not require the claims to be amended to use an imprecise term. Further, it is unclear why any characterization of the water-repellant is required at all, as the claims presently comply with 35 U.S.C. §112, second paragraph.

The present application describes that in the penetration-resistant material, in the first layer of fabric at least the first set of threads, and in the second layer of fabric at least the second set of threads, are treated with a water-repellant. The water-repellant agent may be



applied in the form of an aqueous emulsion. The threads may be treated by moving over a rotating roller immersed in a bath containing the emulsion, and then passing through a drying zone. Thus, the process results in water-repellant treated threads.

The water-repellant as applied is thus not in a coating or film form. Moreover, once applied, a uniform coating or film is not necessarily achieved. The water-repellant is variably within and on the treated threads.

In an effort to expedite resolution of this issue, claims 1 and 2 are amended to recite "wherein the resulting treated threads have a water-repellant finish." As used in the art, the treated threads are more accurately defined to have a water-repellant finish, rather than a coating or film. The term "finish" is thus accurate and should address whatever concerns the Patent Office may have.

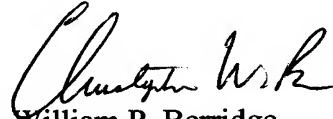
For the foregoing reasons, reconsideration of the claims is respectfully requested.

#### **VI. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-23 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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WPB:CWB/rav

Attachments:

Amended Abstract  
Amended Figure

Date: July 7, 2006

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